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## Paper acceptance letter

to: **Bachtiar Jusuf Helmy, Minto Waluyo**

**Dear Authors,**

We are pleased to inform you that your paper entitled **"Model of marketing performance using supply chain variable oriented on the advantage of sustainable competition"** was reviewed by 2 reviewers and got positive opinion. This, paper has been accepted for publication at the peer-reviewed **"International Journal of Academic Research"**, Baku, Azerbaijan to be published in November 30, 2012.

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# MODEL OF MARKETING PERFORMANCE USING SUPPLY CHAIN VARIABLE ORIENTED ON THE ADVANTAGE OF SUSTAINABLE COMPETITION

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# MODEL OF MARKETING PERFORMANCE USING SUPPLY CHAIN VARIABLE ORIENTED ON THE ADVANTAGE OF SUSTAINABLE COMPETITION

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**ABSTRACT**

This article proposed a basic model of marketing performance by implementing the supply chain variable. The main methods were the field research and solved by implementing simulation modeling. The results revealed a positive and significant affect on the following chain: supplier to manufacture, manufacture to distributor, distributor to the customer, the customer to marketing performance. Eventually, the marketing performance affected to sustainable competition.

**Key words:** supplier, manufacture, distributor, customer

## 1. INTRODUCTION

PT. ABC which is established in Surabaya, East Java is one of manufacturing companies that produces sandpaper. This company has Global Vision oriented on its performance which is ready for market competition. Meanwhile, to face the global competition, the strategy of marketing performance in efforts for its improvement is conducted to obtain such a prime sustained product [1]. The model of marketing performance oriented on the advantage of sustainable competition has already been established in this company. Therefore, this basic model will always be used as a modeling test to obtain a relevant information related to sustainable aspect influential model.

The simulation conducted on a model, will be obtained some information about which indicator needs to be improved, maintained, and eliminated in terms of disadvantages things or less up-to date in that era. The framework of model concept from supply chain variable affiliated on effective, efficient, and productive process. This is conducted to get to know its effects on the marketing performance oriented on the advantage of sustainable competition [2].

Based on the field observation, Supplier Variable was supported by 4 (four) suppliers. They are Paper supplier ($X_1$), Clothes ($X_2$), Grain ($X_3$), and Adhesive ($X_4$). These goods are then processed or manufactured to obtain one product that will reach the customers. Later on, evaluation was conducted to get to know the significance of the whole effects on the Marketing Performance and the Advantage of Sustainable Competition [3].

Based on the field observation, Paper Variable ($X_1$) with its indicators: Exact Quantity ($X_{1.1}$), Exact Time ($X_{1.2}$), Quality ($X_{1.3}$), Price ($X_{1.4}$). Meanwhile, Cloth Variable ($X_2$), Grain ($X_3$), and Adhesive ($X_4$), had similar indicators, that was: Cloth Variable ($X_2$)had : Exact Quantity ($X_{2.1}$), Exact Time ($X_{2.2}$), Quality ($X_{2.3}$), and Price ($X_{2.4}$). Indicator of Grain Variable ($X_3$), had: Exact Quantity ($X_{3.1}$), Exact Time ($X_{3.2}$), Quality ($X_{3.3}$), and Price ($X_{3.4}$). Meanwhile, Adhesive Variable ($X_4$), with its indicators: Exact Quantity ($X_{4.1}$), Exact Time ($X_{4.2}$), Quality ($X_{4.3}$), and Price ($X_{4.4}$). [4]

Moreover, Fabrication Variable ($Y_1$) with its indicators: Exact Quantity ($Y_{1.1}$), Specification ($Y_{1.3}$), Quality ($Y_{1.3}$) (1). Distribution Variable ($Y_2$) with its indicators: Creativity ($Y_{2.1}$), Service ($Y_{2.2}$), Relation ($Y_{2.3}$), Quality ($Y_{2.4}$), Exact Quantity ($Y_{2.5}$), Exact Time ($Y_{2.6}$) [5]. Meanwhile for Customer Variable ($Y_3$) with its indicators: Service ($Y_{3.1}$), Customer's Needs ($Y_{3.2}$), Quality ($Y_{3.3}$), and Price ($Y_{3.4}$) [6]. As well as Variable of Marketing Performance ($Y_4$) with its indicators: Customer's Satisfaction ($Y_{4.1}$), Information System ($Y_{4.2}$), Volume of Sales ($Y_{4.3}$), Customer's Growth ($Y_{4.4}$), and Growth of Sales ($Y_{4.5}$) [7]. Finally, the Advantage Variable of Sustainable Competition ($Y_5$) with its indicators: Service ($Y_{5.1}$), Quality ($Y_{5.2}$), Price ($Y_{5.3}$), and Product ($Y_{5.4}$) [8].

Based on the field observation and study of model, some statement of problem could be formulated as follows: 'How feasible is the basic proposal model of marketing performance through supply chain variable oriented on the advantage of sustainable competition?'

The objective of this research was to study the basic model of marketing performance by implementing the supply chain variable oriented on the advantage of sustainable competition based on the significance of effect in PT. ABC.

## 2. MATERIAL AND METHODS

This research design was qualitative which was made into quantitative by providing some questionnaire of scale 5 [9].

The questionnaire was given to some senior officials of PT. ABC. The analysis unit of this research was related to the worker's perception to the company. Therefore, the subject of this research was the company's employees, and the object was the company. The questionnaire was distributed to the 140 influential senior officials in PT. ABC. However, after the data were verified, there were only 127 questionnaires considered to be complete.

This research required 100 questionnaires only which were taken in a random sampling because this had already fulfilled the assumption requirements by implementing estimation technique of Maximum Likelihood (ML) that required the minimum data as many as 100 [10].

After the model was classified and specified completely, the next step was to choose the appropriate input, like co-variant to test the causality relations [7].

The choice of input matrix and estimation technique of the established model, then after estimation was undertaken, there was some kind of obstacle called 'Warning Error' [11]. Therefore, some other way out was required to choose input matrix by assuming the maker variable of Supplier Variable (X) which consisted of Paper Variable ($X_1$), Cloth Variable ($X_2$), Grain Variable ($X_3$), and Adhesive Variable ($X_4$) that became Unobserved Exogenous.

The next step, there was an exchange of model. The Supplier variable that was used to have 4 maker variables, became Exogen variable that stood by itself, so that the indicator stayed in variable $X_1$, $X_2$, $X_3$, and $X_4$, became the indicator of Supplier (X). Here some kind of interesting thing happened because there was a renewal of model: TWO STEP APPROACH became ONE STEP APPROACH, with its indicator looked alike but different objective. This objective was one as a stated in a previous finding [8, 12].

## 3. RESULTS AND DISCUSSION

### 3.1. Measurement Model

**Table 1.** The Value of Goodness of Fit and Cut off Value Measurement Model

| Criteria | The Result of Test Model | Critical Value | Note |
|---|---|---|---|
| Chi square | 823.4973 | Small, $X^2$ and df = 650 with α = 0.05 is 710.4212 | Good |
| Probability | 0.254 | ≥ 0.05 | Good |
| Cmin/DF | 202.360 | ≤ 2.00 | Not good |
| RMSEA | 0.031 | ≤ 0.08 | Good |
| GFI | 0.650 | ≥ 0.90 | Marginal |
| AGFI | 0.651 | ≥ 0.90 | Marginal |
| TLI | 0.901 | ≥ 0.95 | Good |
| CFI | 0.943 | ≥ 0.95 | Good |

Based on the table above, it could be concluded that some dimensions employed by the researcher did not reflect the real latent of variable to analyze. Some indicators used to measure some construct / variable, all were both valid and significant because the critical ratio (CR) > 2 SE, and its Probability was < 0.05 [7].

**Table 2.** Corelation Point of Measurement Model

| | Estimation | Prob. | Note |
|---|---|---|---|
| $X \leftrightarrow Y_1$ | 0.560 | 0.000 | Significant |
| $Y_1 \leftrightarrow Y_2$ | 0.523 | 0.000 | Significant |
| $Y_2 \leftrightarrow Y_3$ | 0.479 | 0.000 | Significant |
| $Y_3 \leftrightarrow Y_4$ | 0.597 | 0.000 | Significant |
| $Y_4 \leftrightarrow Y_5$ | 0.468 | 0.000 | Significant |

Based on the table above, it could be concluded that some construct / variable employed by the researcher reflected the the latent variable significantly to analyze

**Table 3.** The Value of Goodness of Fit and Cut off Value Structural Model

| Criteria | The Result of Test Model | Critical Value | Note |
|---|---|---|---|
| Chi square | 736.7436 | Small, $X^2$, df with α = 0.05 is 720.8758 | Not good |
| Probability | 0.02 | ≥ 0.05 | Not good |
| Cmin/DF | 4.245 | ≤ 2.00 | Not good |
| RMSEA | 0.173 | ≤ 0.08 | good |
| GFI | 0.610 | ≥ 0.90 | Marginal |
| AGFI | 0.692 | ≥ 0.90 | Not good |
| TLI | 0.690 | ≥ 0.95 | Not good |
| CFI | 0.775 | ≥ 0.95 | Not good |

Based on table 3, there was some criteria which was considered to be 'not good'. Therefore, some modification of model was required in accordance with the index of data modification by selecting the biggest value of modification index. If the result did not satisfy yet, we had to select the next biggest value until we could really fulfill the criteria value for the Goodness of Fit permitted [10].

**Table 4.** The Value of Goodness of Fit and Cut off Value modification model

| Criteria | The Result of Test Model | Critical Value | Note |
|---|---|---|---|
| $X^2$ Chi square | 675,2435 | Small, $X^2$; df = 642 with α = 0.05 is 702,0549 | good |
| Probability | 0,176 | ≥ 0.05 | good |
| Cmin/DF | 1,39 | ≤ 2.00 | good |
| RMSEA | 0,012 | ≤ 0.08 | good |
| GFI | 0,958 | ≥ 0.90 | good |
| AGFI | 0,914 | ≥ 0.90 | good |
| TLI | 0,999 | ≥ 0.95 | good |
| CFI | 0,982 | ≥ 0.95 | good |

Table 4 showed that the criteria employed had a good point. Therefore, this kind of model needed to be maintained in the following year.

**Tabel 5.** Regression Weight Modification Model

| | | | Estimate | S.E. | C.R. | P | Standardize Reg. Weight ( $\lambda_i$) |
|---|---|---|---|---|---|---|---|
| Y1 | <--- | X | 1,354 | 0,677 | 4,412 | 0,000 | 0,554 |
| Y2 | <--- | Y1 | 0,405 | 0,104 | 3,909 | 0,000 | 0,556 |
| Y3 | <--- | Y2 | 0,671 | 0,182 | 3,690 | 0,000 | 0,520 |
| Y4 | <--- | Y3 | 0,385 | 0,119 | 3,219 | 0,001 | 0,642 |
| Y5 | <--- | Y4 | 0,796 | 0,273 | 2,913 | 0,004 | 0,524 |

Table 5 showed that the significant criteria and Standardized Regression Weight ( $\lambda_i$) had a positive point, so that this kind of model needed to be maintained in the following year. Meanwhile, the reliability calculation of all constructs or variables employed by the researcher had already been reliable, because its reliability of each construct had already reached up to ≥ 0,70. [13].

Moreover, the discussion that could be taken from the research conducted in PT ABC by using analysis study of struktural model modification had already been matched with the Goodness Of Fit, with the Chi Square ($X^2$). This model of modification was quite good with its result value of test model: 675, 2435. This point had already been smaller than the requirement required in Goodness Of Fit model, that was 702,0549, with its probability value of test model was 0,176. The Minimum Sample Discrepance Function/Degree of Freedom( Cmin/DF) with its result value of test model was 1,39 (The Root Mean Square Error of Approximation (RMSEA) with its result value of test model was 0,012.

Goodness of Fit Index (GFI ) with its result value of test model was 0,958. This point had already been bigger than the requirements required in Goodness Of Fit model, that was 0,90. Adjusted Goodness of Fit Index (AGFI ) with its result value of test model was 0,914. Tucker Lewis Indeks (TLI ) with its result value of test model was 0,999 and Comperative Fit Indeks (CFI) with its result value of test model was 0,982. Meanwhile, the regression study was as follows: Supplier affected to the Manufacture positively and significantly as much as 0,554; Manufacture affected to the Distributor positively and significantly as much as 0,556; Distributor affected to the Customer positively and significantly as much as0,52; Customer affected to the Marketing Performance positively and significantly as much as 0,642; and the Marketing Performance affected to the Advantage of Sustainable Competition positively and significantly as much as 0,524 [12].

Model modification that was undertaken by considering the greatest value of index modification (IM), and supported by some appropriate theories [10], the therapy which was undertaken by regressing $X_{1.1}$ and $X_{1.2}$ in accordance with the greatest value of IM was 46,368 [12]. After the first trial and error was undertaken, the test result of Goodness of Fit Indices was quite good. Then, the basic model proposed was very good. Therefore, it needed to be maintained, and the next strategy should be undertaken the same kind of test model whether the result would be the same or not. This basic model of marketing performance would always be evaluated to get some information which indicator that needed to be improved, maintained, and which indicator was not used due to its characteristics that were not useful or out of data in that era. This model would be found sustainably whether its model was still quite good or not. Meanwhile, the concept of supply chain variable, in order to obtain an effective, efficient, and productive process, then its significance and effect were measured in order to keep it in existence. The product / result of this basic model was very good because it only needed to take a therapy once. The result was quite good, however to keep maintaining was much more difficult than achieving the target. Therefore, the strategy and technique had to be able to be maintained well.

## 4. CONCLUSION

Based on the discussion related to the research conducted at PT ABC, it could be concluded as follows:

The basic model of marketing performance, the superior sustainable proposal was in fact quite good after being modified with the criteria $X^2$ Chi square = 675,2435, Probability = 0,176, Cmin/DF = 1,39,RMSEA = 0,012 GFI = 0,958, AGFI = 0,914, TLI = 0,999 and CFI = 0,982. Supplier affected significantly and positively to the Manufacture as much as 0,554; Manufacture affected significantly and positively to the Distributor as much as 0,556; And Distributor affected significantly and positively to the Customer as much as 0,52; Meanwhile Customer affected significantly and positively to the Marketing Performance as much as 0,642; Finally, Marketing Performance affected significantly and positively to the Advantage of Sustainable Competition as much as 0,524.

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